

PATENT ABSTRACTS OF JAPAN

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(54) HEAT RESISTANT MEMBER

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a heat resistant member durable against a long term use under a high temp. atmosphere and an operation environment where thermal cycle or thermal shock is impressed by improving both properties of thermal fatigue property and thermal shock resistance of a ceramic heat insulating layer.

SOLUTION: The heat resistant member is provided with the ceramic heat insulating layer 3 formed by applying directly on a metallic base material 1 or through a metallic bonding layer 2 formed on the metallic base material 1. The ceramic heat insulating layer 3 is provided on the metallic bonding layer 2 (or the metallic base material 1) and has a 1st ceramic layer 3a having high elastic modulus and high hardness and a 2nd ceramic layer 3b provided on the 1st ceramic layer 3a and having low elastic modulus and low hardness. The 1st ceramic layer 3a is, for example, a high density layer having $\geq 88\%$ relative density and the 2nd ceramic layer 3b is a low density layer having $<88\%$ relative density.

